UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte CORVILLE O. ALLEN and BIN WANG

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Appeal 2016-001786
Application 11/843,620[1]
Technology Center 2400

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Before DEBRA K. STEPHENS, KEVIN C. TROCK, and
JESSICA C. KAISER, *Administrative Patent Judges*.

STEPHENS, *Administrative Patent Judge*.

DECISION ON APPEAL

Introduction

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's
Final Rejection of claims 1–5, 7–12, 14–18, and 20–23. Claims 6, 13, and
19 have been cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

STATEMENT OF THE INVENTION

The claims are directed to deploying resources in target server environments by selecting a target server environment with an attribute matching a selection attribute for the resource (Spec. ¶ 23, Abstract).

Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1.   An article of manufacture comprising a non-transitory computer readable medium device including code executed to perform operations, the operations comprising:
>
>   registering target server artifact creators with a registry;
>
>   including an entry in the registry for each of the target server artifact creators registering with the registry indicating an attribute of the target server environment corresponding to the registering target server artifact creator, wherein the attribute includes an invocation type indicating execution of a resource in the target environment including at least one of a running length of a process and a quality of service;
>
>   receiving a service description indicating the resource and values for properties for the resource to use to execute the resource, including invocation type parameters expected for the resource;
>
>   creating an artifact construct for the resource indicating the values for the properties for the resource provided in the service description;
>
>   determining a plurality of target server artifact creators having attributes satisfying the invocation type parameters expected for the resource;
>
>   communicating the artifact construct to the determined plurality of target server artifact creators, wherein the target server artifact creators implement the resource in their corresponding target server environments; and
>
>   creating, by the determined target server artifact creators, implementations of the resource for the artifact construct having

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the values indicated in the artifact construct for execution in the corresponding target server environment.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Becker	US 2004/0088397 A1	May 6, 2004
Geekee	US 2005/0160155 A1	July 21, 2005
Nayak	US 2005/0289536 A1	Dec. 29, 2005
Tantawi	US 2006/0070060 A1	Mar. 30, 2006

REJECTIONS

The Examiner made the following rejections:

Claims 1–3, 5, 7, 9–11, 14–17, and 20–23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Becker, Nayak, and Tantawi (Final Act. 9–31).

Claims 4, 12, and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Becker, Nayak, Tantawi, and Official Notice (*id.* at 31–33).

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Becker, Nayak, Tantawi, and Geekee (*id.* at 33–34).

ISSUES

35 U.S.C. § 103(a): Claims 1, 9, and 15

Issue 1a: Did the Examiner err in finding Becker teaches "registering target server artifact creators with a registry; including an entry in the registry for each of the target server artifact creators registering with the registry indicating an attribute of the target server environment

corresponding to the registering target server artifact creator," as recited in claim 1 and similarly recited in claims 9 and 15?

Issue 1b: Did the Examiner err in finding Becker and Tantawi teaches "the attribute includes an invocation type indicating execution of a resource in the target environment including at least one of a running length of a process and a quality of service," as recited in claim 1 and similarly recited in claims 9 and 15?

Issue 1c: Did the Examiner err in finding the combination of Becker, Nayak, and Tantawi teaches "determining a plurality of target server artifact creators having attributes satisfying the invocation type parameters expected for the resource," as recited in claim 1 and similarly recited in claims 9 and 15?

Issue 1d: Did the Examiner err in finding Becker teaches "communicating the at least one artifact construct to the determined plurality of target server artifact creators, wherein the target server artifact creators implement resources for corresponding target server environments," as recited in 1 and similarly recited in claims 9 and 15?

ANALYSIS

Issue 1a

Appellants contend the Examiner erred in finding Becker teaches "registering target server artifact creators with a registry; including an entry in the registry for each of the target server artifact creators registering with the registry indicating an attribute of the target server environment[2]

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[2] We note that the recitation of "the target server environment" lacks antecedent basis. For the purposes of this appeal, we will read "the target

corresponding to the registering target server artifact creator," as recited in claim 1 and similarly recited in claims 9 and 15 (App. Br. 8–11). Specifically, Appellants argue Becker discusses a repository having settings for managed resources (*id.* at 8). According to Appellants, the claim requires target server artifact creators (TSACs) to "actually register with the registry and that an entry is included for each TSAC that in fact registers" (*id.* at 10–11), but Becker's repository does not have "an entry for each target server artifact creator" (*id.* at 9).

We are not persuaded by Appellants' arguments. The Examiner finds, and we agree, Becker teaches that a "master server can include a repository," i.e., a registry (Ans. 4 (citing Becker ¶ 54)). The Examiner further finds, and we agree, "agents on the target server machines can capture the current resource state for each resource" deployed by the target server and "return the current resource state [to] the master server" for storage in the master server's repository (*id.* (citing Becker ¶ 63), 8 (citing Becker ¶ 59); *see* Becker ¶¶ 21–23). The Examiner additionally finds, and we agree, Becker's target server agents store the state of a deployed resource in resource state depot managers that are used by Becker's master server (Ans. 3–4 (citing Becker ¶ 55)).

Appellants' arguments, that Becker's target servers do not "register with the registry" and that an "entry in the registry" is not present for each registered target server (App. Br. 10–11), are not persuasive. We agree with

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server environment" as "a target server environment." We also note the claim later recites "the target environment," which has no prior reference. For the purposes of this appeal, we understand "the target environment" to refer to the "target server environment." Should there be further prosecution, the Examiner's attention is drawn to these issues.

the Examiner "the current resource state" is provided "from the agents" and "stored in association with the respective agent" (Ans. 4 (citing Becker ¶¶ 55, 63), 8 (citing Becker ¶ 59)). Indeed, Becker's master server "capture[s] a resource state from a selected source server machine . . . the [state] can then be stored in the [master server's] repository 450" (Becker ¶¶ 58–59). That is, the state of the target server the master server stores in its repository is an entry for a target server. Furthermore, we agree with the Examiner's broad, but reasonable, interpretation that the claim does not require "the entries are stored according[ly] as 'TSAC1' and 'TSAC2'" (Ans. 7–8) because neither the claim nor the Specification define explicitly the process of "registering," and Appellants do not proffer a definition of "registering" (see App. Br. 10–11). Because "registering" is not limited to any particular type of process, we determine the target server is registered when the target server's associated captured state is stored in the master server's repository (Becker ¶¶ 54, 58–59, 63). Accordingly, we are not persuaded the Examiner erred in finding Becker teaches "registering target server artifact creators with a registry; including an entry in the registry for each of the target server artifact creators registering with the registry indicating an attribute of the target server environment corresponding to the registering target server artifact creator," within the meaning of claims 1, 9, and 15.

Issue 1b

Appellants contend the Examiner erred in finding the combination of Becker and Tantawi teaches "the attribute includes an invocation type indicating execution of a resource in the target environment including at

least one of a running length of a process and a quality of service," as recited
in claim 1 and similarly recited in claims 9 and 15 (App. Br. 8–10; Reply Br.
1–3). Specifically, Appellants argue "Becker do[es] not teach a registry . . .
indicates an invocation type for each target server artifact creator" (Reply
Br. 2–3 (citing Becker ¶¶ 54–55, 63, 92); App. Br. 9). Appellants further
argue Tantawi "provision[s] an application to satisfy a [Quality of Service
(QoS)] parameter," i.e., an invocation type, but "Tantawi does not teach
attributes of TSACs" (App. Br. 9–10; Reply Br. 3). According to
Appellants, Tantawi teaches away "from having a registry with entries for
[target servers] having an attribute for an invocation type" because "Tantawi
does not use a repository having attributes for [target servers]" (App. Br.
10).

We are not persuaded by Appellants' arguments. Initially, we note
claim 1 recites a target server's "attribute includes an invocation type
indicating execution of a resource" and also recites "invocation type
parameters expected for the resource." Whether the recited invocation type
for the target server is the same recited invocation type for the executed
resource is unclear and thus, may be interpreted as being the same or
different. For the purposes of this appeal and to further prosecution, we will
interpret the respective invocation types to refer to the target server's
invocation type which is meant to match the resource's invocation type.
Should there be further prosecution, the Examiner's attention is drawn to
these issues.

As discussed *supra*, the Examiner finds, and we agree, Becker teaches
a "master server can include a repository" which stores the "capture[d]
current resource states" of target servers (Ans. 4–5 (citing Becker ¶¶ 54–55,

63)) in order to "select[ ] servers" to deploy resources on (Ans. 7). The Examiner further finds, and we agree, Tantawi teaches "provision[ing] at least one application to satisfy at least one quality of service guarantee," i.e., an invocation type (Final Act. 13 (citing Tantawi ¶ 42)). The Examiner combines Becker and Tantawi to "consider the QoS a server can provide when distributing applications" to Becker's servers (Ans. 7; Final Act. 14).

Appellants' arguments against Becker and Tantawi individually (App. Br. 9–10; Reply Br. 2–3) are not persuasive because the Examiner's rejection is based on the combination of Becker and Tantawi. While Appellants argue Becker's target server attributes "maintained by the master server" do not indicate an "invocation type" (Reply Br. 2 (citations omitted)), the Examiner relies on Tantawi to teach attributes indicating a QoS guarantee, i.e., an invocation type (Final Act. 13 (citing Tantawi ¶¶ 30, 42)). Further, while Appellants argue Tantawi's attribute indicating an invocation type is not an attribute for target servers (Reply Br. 3), the Examiner relies on Becker to teach attributes for target servers (Ans. 4–5, 7). The Examiner's combination modifies Becker, which teaches target server registry entries indicating attributes of target servers, with Tantawi, which teaches attributes can include QoS, i.e., invocation type, to result in a system where target server attributes include invocation type. (Ans. 7; Final Act. 14).

Moreover, we are not persuaded by Appellants' argument that Tantawi teaches away from its combination with Becker because Tantawi "does not use a repository having attributes for TSACs . . . to select the target servers" (App. Br. 10). To teach away, a reference must actually "criticize, discredit, or otherwise discourage" investigation into the claimed

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solution. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). Appellants discuss consideration of Tantawi's QoS attributes using a matrix to select a server, but have not proffered sufficient evidence to persuade us Tantawi criticizes, discredits, or otherwise discourages considering QoS attributes stored in a registry to select a server (*see* App. Br. 10).

Accordingly, we are not persuaded the Examiner erred in finding the combination of Becker and Tantawi teaches "the attribute includes an invocation type indicating execution of a resource in the target environment including at least one of a running length of a process and a quality of service," within the meaning of claims 1, 9, and 15

Issue 1c

Appellants contend the Examiner erred in finding the combination of Becker and Nayak teaches "determining a plurality of target server artifact creators having attributes satisfying the invocation type parameters expected for the resource," as recited in claim 1 and similarly recited in claims 9 and 15 (App. Br. 11–13; Reply Br. 4). Specifically, Appellants argue "Nayak does not teach or suggest determining TSACs satisfying an invocation type parameter (such as QoS[)]" (App. Br. 12) and Becker does not teach "determining a plurality of target server artifact creators having attributes satisfying the invocation type parameters" (*id.* at 13). Appellants further argue "in Becker the gathered information is not used to determine agents" (Reply Br. 4).

We are not persuaded by Appellants' arguments. Initially, we note the limitation reciting the determined "plurality of target server artifact

creators" does not necessarily refer to the previously recited "target server artifact creators registering with the registry."

As discussed *supra*, the Examiner finds, and we agree, Tantawi teaches "provision[ing] at least one application to satisfy at least one quality of service guarantee," i.e., Tantawi teaches an invocation type (Final Act. 13–14 (citing Tantawi ¶ 42)). The Examiner further finds, and we agree, Nayak teaches "matching attributes to identify targets" for deployment (Final Act. 13 (citing Nayak ¶¶ 1, 33, 35)).

Appellants' arguments, that Becker and Nayak do not teach invocation type parameters (App. Br. 11–13; Reply Br. 4), do not address the Examiner's reliance on Tantawi to teach attributes including invocation type parameters, i.e., QoS (Final Act. 13–14). Furthermore, Appellants' argument, that Becker does not use information to determine agents (Reply Br. 4), is not persuasive because the Examiner relies on Nayak to teach using attribute information to "identify targets" (Final Act. 13). Accordingly, we are not persuaded the Examiner errs in finding the combination of Becker, Nayak, and Tantawi teaches "determining a plurality of target server artifact creators having attributes satisfying the invocation type parameters expected for the resource," within the meaning of claims 1, 9, and 15.

Issue 1d

Appellants contend the Examiner erred in finding Becker teaches "communicating the at least one artifact construct to the determined plurality of target server artifact creators, wherein the target server artifact creators implement resources for corresponding target server environments," as recited in claim 1 and similarly recited in claims 9 and 15 (App. Br. 13; *see*

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also Reply Br. 4–5). Specifically, Appellants argue Becker does not communicate "the same artifact" to "different target server artifact creators" because Becker sends "specific target server configurations" to respective servers and "instructions are designed for [a] particular" target server agent (*see* App. Br. 13–15; *see also* Reply Br. 4–5). Appellants further argue Becker's application package and state do not "have properties and values as presented in a received service description" (App. Br. 14).

We are not persuaded. The Examiner finds, and we agree, Becker's master server "model execution engine 440 can be used to deploy an application onto a set of target server machines" (Final Act. 11–12 (citing Becker ¶¶ 60–61)). The Examiner further finds, and we agree, Becker teaches "the environment of a server may need to be configured" for an application (Final Act. 12 (citing Becker ¶ 25)). The Examiner additionally finds, and we agree, Becker's "application package is representative of the selected resources" and application packages are "sent to each target server" (Ans. 12 (citing Becker ¶¶ 46–47, Figs. 3–4)).

Appellants argue Becker's application package *instructions* are specific to a target server agent (App. Br. 14; Reply Br. 5); however, the application package's *application state* is not specific to the target server agent and Becker sends a common application state to multiple target server agents (*see* Becker Fig. 4). Indeed, Becker's "application package includ[es] all the selected resources 130 and the captured resource states 140" (Becker ¶ 45) and "the master server 170 passes the application package and application state to the agent 175" of a target server and repeats the process for any other target server agents (Becker ¶ 47, Fig. 4). Furthermore, the resources and states sent by Becker's master server are properties and values

describing a service because those resources and states "configure the target server machine based on the captured resource state(s) of the resource(s) to be deployed" (Becker ¶¶ 25, 61). Accordingly, we are not persuaded the Examiner erred in finding Becker teaches "communicating the at least one artifact construct to the determined plurality of target server artifact creators, wherein the target server artifact creators implement resources for corresponding target server environments," within the meaning of claims 1, 9, and 15.

35 U.S.C. § 103(a): Claims 2, 10, and 16

Issue 2: Did the Examiner err in finding Nayak teaches "generating, by the target server artifact creators, metadata for the resource in the target server format in response to being invoked with the artifact construct," as recited in claim 2 and similarly recited in claims 10 and 16?

ANALYSIS

Appellants contend the Examiner erred in finding Nayak teaches "generating, by the target server artifact creators, metadata for the resource in the target server format in response to being invoked with the artifact construct," as recited in claim 2 and similarly recited in claims 10 and 16 (App. Br. 15–16). Specifically, Appellants argue Nayak's "common application deployment system configures the targets for specific target requirements" rather than having the "TSACs generate metadata that is used on their respective environments" (*id.*).

We are not persuaded by Appellants' arguments. The Examiner finds, and we agree, Nayak's "application deployment system is internal to the

target system" (Ans. 13 (citing Nayak ¶¶ 26–27)). The Examiner combines Nayak's internal application deployment with Becker's target servers (Final Act. 14–15). Because Nayak's application deployment system is internal to its target and the Examiner's combination includes Nayak's internal application deployment system in Becker's target servers, we are not persuaded by Appellants' argument that Nayak's common application deployment system is not deployed in target servers (App. Br. 15–16). Accordingly, we are not persuaded the Examiner erred in finding Nayak teaches "generating, by the target server artifact creators, metadata for the resource in the target server format in response to being invoked with the artifact construct," within the meaning of claims 2, 10, and 16.

35 U.S.C. § 103(a): Claims 3, 11, and 17

Issue 3: Did the Examiner err in finding Nayak teaches "the service descriptor[3] indicates a connection resource including connection properties to connect to an entity, wherein each determined target server artifact creator creates a connection resource for the corresponding target server environment to enable connection to the entity indicated in the connection resource," as recited in claim 3 and similarly recited in claims 11 and 17?

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[3] We note claim 1, which claim 3 depends from, does not recite "a service descriptor" and, instead, claim 1 recites "a service description." For the purposes of this appeal, we understand "the service descriptor" recited in claim 3 to refer to "a service description" recited in claim 1. Should there be further prosecution, the Examiner's attention is drawn to this issue.

ANALYSIS

Appellants contend the Examiner erred in finding Nayak teaches "the service descriptor indicates a connection resource including connection properties to connect to an entity, wherein each determined target server artifact creator creates a connection resource for the corresponding target server environment to enable connection to the entity indicated in the connection resource," as recited in claim 3 and similarly recited in claims 11 and 17 (App. Br. 16–17; Reply Br. 5). Specifically, Appellants argue Nayak's "configuration data . . . includes various information" but does not teach "creating a connection resource to enable connection to an entity indicated in the connection resource" (App. Br. 17; *see also* Reply Br. 5).

We are not persuaded by Appellants' arguments. The Examiner finds, and we agree, Nayak discloses that users have "an opportunity to redefine some or all of configuration data," including "connecting to databases" (Nayak ¶ 34), which "impl[ies] a connection" (Ans. 14; Final Act. 15). Appellants' arguments do not address Nayak's database connection parameter (*see* App. Br. 16–17; Reply Br. 5), and we agree with the Examiner that a parameter which defines a connection to a database enables a connection to that database (Ans. 14; Final Act. 15). Accordingly, we are not persuaded the Examiner erred in finding Nayak teaches "the service descriptor indicates a connection resource including connection properties to connect to an entity, wherein each determined target server artifact creator creates a connection resource for the corresponding target server environment to enable connection to the entity indicated in the connection resource," within the meaning of claims 3, 11, and 17.

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Remaining Claims 4, 5, 7, 8, 12, 14, 18, and 20–23

Dependent claims 4, 5, 7, 8, 12, 14, 18, and 20–23 are not separately argued by Appellants (*see* App. Br. 15, 17) and thus, these claims fall with their respective independent claims. Accordingly, we sustain the Examiner's rejections of dependent claims 5, 7, 14, and 20–23 under 35 U.S.C. § 103(a) as being unpatentable over Becker, Nayak, and Tantawi; dependent claims 4, 12, and 18 under 35 U.S.C. § 103(a) as being unpatentable over Becker, Nayak, Tantawi, and Official Notice; and dependent claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Becker, Nayak, Tantawi, and Geekee.

DECISION

The Examiner's rejection of claims 1–3, 5, 7, 9–11, 14–17, and 20–23 under 35 U.S.C. § 103(a) as being unpatentable over Becker, Nayak, and Tantawi is affirmed.

The Examiner's rejection of claims 4, 12, and 18 under 35 U.S.C. § 103(a) as being unpatentable over Becker, Nayak, Tantawi, and Official Notice is affirmed.

The Examiner's rejection of claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Becker, Nayak, Tantawi, and Geekee is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED